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Docket No. F-8543

Ser. No. 10/525,613

**AMENDMENTS TO THE CLAIMS:**

Please replace the claims with the claims provided in the listing below wherein status, amendments, additions and cancellations are indicated.

1. (Currently amended) An agitating ball mill, comprising:

a grinding chamber containing grinding media;

a stator and a rotor which are arranged in the grinding chamber, said rotor being essentially shaped as a rotationally symmetrical element disk, said stator being formed by an inner surface of the grinding chamber, said inner surface presenting a shape which essentially compliments the rotor surface, the rotor and the stator each having pins arranged over an entire respective surface thereof which extend from the respective surface and project into the processing space;

structure defining a grinding material input opening and a grinding material output opening for feeding and removing grinding material to or from the grinding chamber, the grinding material input opening being arranged in a radially outer peripheral area of the grinding chamber, and the grinding material output opening being arranged in a radially inner area of the grinding chamber; and

a grinding medium separation device, arranged in the grinding chamber upstream from the output opening, used to separate grinding media entrained in the grinding material from the grinding material before the grinding material is removed from the grinding space through the output opening.

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2.-5. (Cancelled)

6. (Currently amended) The agitating ball mill according to claim [[5]]  
1, wherein the disk has pins on both of two flat disk surfaces thereof.

7. (Previously Presented) The agitating ball mill according to claim 1,  
wherein the grinding chamber with said stator, said rotor and said separation device  
is pivotable into a swiveled position in such a way that the separation device arrives  
at an elevated location which is higher than most of the entire grinding chamber  
volume.

8. (Previously Presented) The agitating ball mill according to claim 7,  
wherein the swiveled position is a non-operating position of the agitating ball mill.

9. (Previously Presented) The agitating ball mill according to claim 7,  
wherein a rotational axis of the rotor is essentially arranged horizontal in the  
operating position of the agitating ball mill.

10. (Previously Presented) The agitating ball mill according to claim 7,  
wherein a rotational axis of the rotor is essentially arranged vertical in the non-  
operating position.

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11. (Previously Presented) The agitating ball mill according to claim 7, wherein most of the grinding chamber volume takes up between 50% and 100% of the entire grinding chamber volume.

12. (Previously Presented) The agitating ball mill according to claim 7, wherein said elevated location of the separation device is the highest location of the separation device achievable via swiveling.

13. (Previously Presented) The agitating ball mill according to claim 7, wherein the separation device is replaceable.

14. (Previously Presented) The agitating ball mill according to claim 7, wherein the separation device is a self-cleaning grading screen.

15. (Previously Presented) The agitating ball mill according to claim 7, wherein the separation device is a paddle wheel.

16. (Previously Presented) The agitating ball mill according to claim 7, wherein the separation device is a separating gap.

17. (Previously Presented) An agitating ball mill, comprising:

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a grinding chamber containing grinding media;

a stator and a rotor which are arranged in the grinding chamber, said rotor being shaped as a rotationally symmetrical element, and said stator being formed by an inner surface of the grinding chamber, said inner surface presenting a shape which essentially compliments the rotor surface, the rotor and the stator each having pins arranged over an entire respective surface thereof which extend from the respective surface and project into the processing space, the rotor being a hollow rotor with at least one hole arranged radially inside the rotor and at least one hole arranged radially outside the rotor, wherein, during operation, the grinding media are transported along with a portion of the grinding material flow inside the rotor from the at least one radially inner hole to the at least one radially outer hole via centrifugal action of the rotor, and transported outside the rotor with an entire grinding material flow from the at least one radially outer hole to the at least one radially inner hole via pumping action of the grinding material input opening, so that the grinding media circulate inside the agitating ball mill;

structure defining a grinding material input opening and a grinding material output opening for feeding and removing grinding material to or from the grinding chamber, the grinding material input opening being arranged in a radially outer area of the grinding chamber, and the grinding material output opening being arranged in a radially inner area of the grinding chamber; and

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a grinding medium separation device, arranged in the grinding chamber upstream from the output opening, used to separate grinding media entrained in the grinding material from the grinding material before the grinding material is removed from the grinding space through the output opening.

18. (Previously Presented) The agitating ball mill according to claim 17, wherein the at least one radially inner hole extends in the circumferential direction given an inner radius  $R_i$  at the rotor, and the at least one radially outer hole extends in a circumferential direction given an outer radius  $R_o$  at the rotor.

19. (Previously Presented) The agitating ball mill according to claim 17, wherein the hollow rotor exhibits inner channels, which each form a flow channel between said at least one radially inner hole and said at least one radially outer hole.

20. (Currently amended) An agitating ball mill, comprising:  
a grinding chamber containing grinding media;  
a stator and a rotor which are arranged in the grinding chamber, said rotor being shaped as a rotationally symmetrical element, and said stator being formed by an inner surface of the grinding chamber, said inner surface presenting a shape which essentially complements the rotor surface, the rotor and the stator each having pins

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arranged over an entire respective surface thereof which extend from the respective surface and project into the processing space;

structure defining a grinding material input opening and a grinding material output opening for feeding and removing grinding material to or from the grinding chamber, the grinding material input opening being arranged in a radially outer area of the grinding chamber, and the grinding material output opening being arranged in a radially inner area of the grinding chamber; and

a grinding medium separation device, arranged in the grinding chamber upstream from the output opening, used to separate grinding media entrained in the grinding material from the grinding material before the grinding material is removed from the grinding space through the output opening, the separation device including a self-cleaning grading screen, said separation device further including a screen jacket within which said grading screen is concentrically arranged, screen cleaning pins being arranged on the rotor and extending into an annular gap defined between the grading screen and the screen jacket.

21. (Currently amended) An agitating ball mill, comprising:

a grinding chamber containing grinding media;

a stator and a rotor which are arranged in the grinding chamber, said rotor being shaped as a rotationally symmetrical element, and said stator being formed by an inner surface of the grinding chamber, said inner surface presenting a shape which

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essentially compliments the rotor surface, the rotor and the stator each having pins arranged over an entire respective surface thereof which extend from the respective surface and project into the processing space;

structure defining a grinding material input opening and a grinding material output opening for feeding and removing grinding material to or from the grinding chamber, the grinding material input opening being arranged in a radially outer peripheral area of the grinding chamber, and the grinding material output opening being arranged in a radially inner area of the grinding chamber; and

a grinding medium separation device, arranged in the grinding chamber upstream from the output opening, used to separate grinding media entrained in the grinding material from the grinding material before the grinding material is removed from the grinding space through the output opening, the separation device including a paddle wheel.

22. (Previously Presented) An agitating ball mill, comprising:

a grinding chamber containing grinding media;

a stator and a rotor which are arranged in the grinding chamber, said rotor being shaped as a rotationally symmetrical element, and said stator being formed by an inner surface of the grinding chamber, said inner surface presenting a shape which essentially compliments the rotor surface, the rotor and the stator each having pins arranged over an entire respective surface thereof which extend from the respective

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surface and project into the processing space, the rotor being a hollow rotor with at least one hole arranged radially inside the rotor and at least one hole arranged radially outside the rotor, wherein, during operation, the grinding media are transported along with a portion of the grinding material flow inside the rotor from the at least one radially inner hole to the at least one radially outer hole via centrifugal action of the rotor, and transported outside the rotor with an entire grinding material flow from the at least one radially outer hole to the at least one radially inner hole via pumping action of the grinding material input opening, so that the auxiliary grinding media circulate inside the agitating ball mill;

structure defining a grinding material input opening and a grinding material output opening for feeding and removing grinding material to or from the grinding chamber; and

a grinding medium separation device, arranged in the grinding chamber upstream from the output opening, used to separate grinding media entrained in the grinding material from the grinding material before the grinding material is removed from the grinding space through the output opening.

#### REMARKS

Claims 1 and 6-22 remain pending in this application. Claims 17-19 and 22 are allowed. Claims 1-16, 20 and 21 are rejected. Claims 2-5 are cancelled herein.